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RTTY *Journal* ©

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W6RO

ABOARD THE R.M.S. QUEEN MARY

Club Station of the
Associated Radio Amateurs of Long Beach, Inc.

WIRELESS ROOM

To N6ELP
Date 10 JAN 82
Time 2224 UTC
Your Signal Via Repeater
146.04 Mhz.
73, BEN W6GPYF

☐ ICOM IC-701/DENTRON TUNER ☐ KENWOOD TS180S ☐ SWAN ASTRO 150 ☑ YAESU FT720R TELEX HEADSETS
☐ CUSHCRAFT ATB-34/ALLIANCE ROTATOR HD73 ☐ CUSHCRAFT ATV-5 ☐ RINGO RANGER ARX-2 ☐ DIPOLE ✓ TET DISCONE

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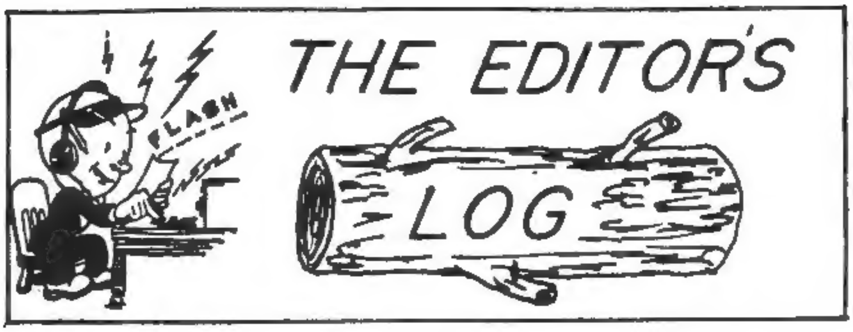

THE EDITOR'S LOG

De Dee, N6ELP

Wow! Did I stir up a hornets nest in the January issue of the RTTY JOURNAL by printing a listing of "Frequencies used for RTTY". I guess that I should have known better, for anyone just listening on most bands, but especially on 40 meters can tell that either there are no 'gentlemen', or there is no adherence to any agreement. The 'guideline' that I printed was just that, a guideline, handed down to me by someone, can't remember just who, that said that here is where RTTY is. And I accepted it because, sure enough, that is where I found RTTYers.

That was over eight years ago and now with the prolific generation of computers almost inundating us on any band that is open, we hear more and more Hams crying foul!

There is good reason for the cry of foul. The FCC gives us a license entitling us to be an Amateur Radio Operator....But no where on that license, or anywhere else for that matter, is there a guide to where to operate. Of course, all of you will say, and I will agree, that your license tells you where you may or may not operator as a Novice, or as a General, or even as an extra class licensee. But nowhere does it say where....SPECIFICALLY, CW, FAX, RTTY, AMTOR, Packet radio, SSTV, FSTV, MSOs or ASCII or any other 'specialized' mode may be found or should be operating within. Only the loosely defined parameters of "Voice" and "CW", are defined. This means that on 20 meters for instance, if you hold the General class license or above you may operate on RTTY LEGALLY, FROM 14.025 to 14.150 MHz as that is the portion of the 20 meter band that is allocated to CW/RTTY. Now we all know that CW means anything OTHER THAN phone don't we? So that means that where CW is allowed all of the other 'specialized' modes must also be. Somehow, the 'specialized' (I call these modes the stepchildren of Ham Radio), modes must all find a 'niche' for themselves and thereafter be good little girls and boys and stay in their little corner no matter how crowded, uncomfortable or unfair it gets. Those that break 'tradition' get told off in no uncertain terms thereby creating hurt feelings and generating more noncompliance with accepted guides such as they are.

We all have horror tales of 2 meter and 11 meter bands getting out of control. The FCC does what it can with limited funding to monitor and police Amateur bands along with all other communications modes they must deal with. Here in San Diego County, which now has the 8th largest city in the USA within its boundries, the FCC maintains 6 employees three of them are office clerks. That doesn't leave much manpower for anything else.

The ARRL has consistently treated RTTYers like they wish we would go away and perhaps we would go away if ignored long enough. Well, we are not going to go away and there are more and more of us every day to contend with. We have finally gotten the ARRL to grant us DXCC status then they do not see fit to print any RTTY DXCC award listings in QST. Oh well, like I said........

The whole purpose of all of the above is to try to get you interested and in gaining your attention hope to get some action started in the right direction. I believe that RTTYers can band together and 'nudge' ARRL into giving us more than lip service in the formulating of some reasonable band plan for not only RTTY, but for all of the specialized modes. We should all know where we may operate on our favorite mode with no one, justly or not, telling us that we do not belong there.

If you all will write/call/pony express it, MSO it whatever, and let me know what your problems have been with the bands and what you think should or should not be done to remedy the situation, or perhaps even whether you think there is a problem. Further, may I suggest to each and every one of you that you make a copy of this page and have it placed in your club bulletin, or excerpts of it, or in your own words condense it to suit your club needs?

I will in turn take all information given to me and recapitulate it to be placed with the ARRL and FCC people that can help solve this problem. Send all cards, letters, etc. to me: Dee, N6ELP, 1155 Arden Drive, Encinitas, California 92024. After all one voice may not be heard, but many voices must be listened to.

Meanwhile, if we all try to be the best operators possible, we can do much to help the situation.

HAM HELPS

Bob, WB6KWE says he had a problem with his Apple Imagewriter with Super Serial printer card, On MARS RTTY they use two carriage returns and a line feed but his printer triple spaced. Bob solved the problem by sending the appropriate command to the Super Serial Card to stop the automatic line feed after a carriage return.

His printer triple spaced again when sending the slash zero (0) command to the printer. Solution was to send the Super Serial and Printer command in precise sequence.

Also, Bobs' ICOM 720A/271A transmitters would key on when his AES CP-1 was on and the Apple IIe off. And the CP-1 connections (made to the IC 720A auxiliary connector) shorted the mike out which was solved

please turn to page 15

DX

JOE WOOD, AJ0X

POB 84

LAUREL, MS 39440

Greetings gang! I see most of us survived the month of February and the hair-raising (greying) events that it brought. As I write this the fourth annual RTTY World Championship has not been held, but I am sure that it will have become history by the time that you read this. I hope that all of the preparations that you all made have paid off and that the XYL (YL), bands, propagation and weather all co-operated to make it an enjoyable event. One thing it will prove beyond a shadow of a doubt, is that we are all better DXers than typists. It is always fun though, and I'll start getting ready for the next one probably next week.

NCDXF Worldwide Beacons. Last month I mentioned that a new publication group is advocating the intermittent operation of a RBBS/CW on 14099 KHZ. and delved into the QRM potential that it would present. I did write a letter to the group explaining from the QRM and public relations standpoint, that I did not think it was such a good idea. They have answered by changing their proposed frequency to 14098! That is now two kilohertz removed from the beacon frequency and may be just enough room to allow operation of both systems without any attendant interference. With the availability of selectivity and sharp filtering systems found in most present day receivers it may work out well. Keep an eye on this and report any difficulties.

Above 14100. The range from 14102 to 14125 looks more appealing each day. Very little activity there and it may be just the place for any semi and fully automatic digital operation to settle in. A move of this sort is contrary to accepted restraints, however the self-imposed "gentlemens agreement" limits are sort of light years behind times and they must be expanded. A letter to the Delta Division Director of the A.R.R.L. and his subsequent intervention on our behalf at Leaque headquarters resulted in an invitation to this writer to attend the upcoming meeting of the Leaque's Ad Hoc Digital Committee in San Francisco on March 30 of this year. The committee will be discussing RTTY and if you have any related suggestions, problems or gripes, send them to me and I will do my utmost to have them aired. In the "other camp" I am being referred to as RTTYs "Ralph Nader" which may mean that they are waking up to the fact that we exist! I have already received a very nice letter from Carl, K6WZ, expressing his views and his wish that you would take equal time to be heard. Thanks Carl! [ED. note:go get 'em Joe!]

ANTENNA TIME

It will be the month of March as ypu read this. For some parts of the country the weather is moderating and for others it is a month or so away from that long awaited time when you can venture out of doors without a blast of Artic air hitting you in the face. As Spring eases up on us it is time to give some thought to those antenna projects. What else can you do with that tax refund? Nothing as important as a good antenna which we all know by now is the singular most important piece of gear in our inventory. Is your antenna system what you think it should be? Start planning now!

NEW DXCC MEMBERS

Congratulations go out to the following stations that have joined the ranks of the A.R.R.L. DX century club. The proud new members are: JA1EOD, K4AGC, OE2SNL, PA0LUS, WA2JBV and W0LYM. Keep up the good work!

ANTARTICA

On the ice for one year is a German Antartica Expedition. One of the members, Lothar, is operating DP0GVN on RTTY, SSTV and CW. Frequencies are 7015, 10115, 14014, 14090 and Oscar at 2200 to 0200 UTC daily. QSLs go to DJ4SO.

Another station, AX0PB, is reported to be active from this area. W1DA, George, wonders if anyone has heard or worked this operation. If you have any information please send it along and I will see that it is passed along to George.

ECUADOR

HC1BW, Orbra, is now active from the capitol city of Quito. He can be found early mornings and evenings around 14087 KHz. Orbra is totally commited to RTTY and can be QSLed via Roy Gould, KT1N, Box DX, Stow, MA, 01775. Statesiders send S.A.S.E. Others outside the states should send a S.A.E with appropriate IRCs to cover return postage.

NAVASSA

From the Gulf Coast DX Net comes word of this multi-mode operation for April 4 to April 7. The callsign is said to be 6Y5NR/KP1 and since it is to be multi-mode, a close look will have to be maintained to catch the RTTY operation. No QSL information is available at this time, however, it will be announced at the time of operation.

DESECHEO

Some RTTY operation has been promised for this activity the second week in March. No other information is available at this time.

COCOS

QSLs for this operation should be sent to: WB4UBD, 1601 Melrose Parkway Norfolk, VA 23508. Did you work this group?

please turn to page 6

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Write or call for more details. See the CWR-6850 at your favorite HAL dealer.

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HEARD, WORKED AND QSL ROUTES

EA8FE	14093 KHz	1357 UTC	CBA (Call Book Address)
SV5TS	14094	1417	Box 251, Rhodes Island, Greece.
EA8ZO	14072	2039	Romantica 1, No. 30, Los Realejos, Tenerife, Canary Islands, Spain.
CT1AMK	14082	2049	Via CT1YDJ
PP7AAD	14093	2240	CBA
K4UZL/KP4	14097		c/o Tony Snow, Box 3022 NCS, FPO Miami,FL 34051
4U1UN	14085	1600	W2MZV
5T5RG	14094	1537	Box 322, Nouadhibour, Mauritania, Africa.
7P8CL	14094	1634	SM5KD
GW3RVG	14094	1601	CBA or BURO
AL7DR	14080	2042	CBA
8P6CB	14094	2000	CBA
OD5NG	14098	1428	Via G4YTI, Box 6, Southwell, NG25 OLL, England. Caveat emptor!
SV0AC/SV9	14084	1305	WB4GCP
HR5SB/HR2	14092	0009	WB0MZB
DP0GVN	14090	0030	DJ4SO
Y44ZI/P	14086	1410	BURO
HV2VO	14087	1633	I0AOF
JR2PAU	14091	2257	BURO
ZS1BW	14082	1955	BURO
GM3SWK	14084	1325	CBA or BURO
LX1BI	14091	1335	CBA or BURO
GM4UYP	14094	1413	CBA or BURO
TI6BJU/HR1	14092	1515	Box 73-C, Tegucigalpa, Honduras.
TI2KGS	14092	2210	CBA
T30AT	14096	1850	G4GED
GD4GWQ	14093	2210	CBA
FM5CB	14086	2049	FM7CB or BURO
TR8DX	21084	1654	WA4VDE
GM4AGS	14084	1259	CBA
GD4FWQ	14096	1310	CBA
6Y5SH	21087	1620	AK1H
JY9IU	21090	1350	CBA
HC1BW	14087	2230	KT1N, Roy Gould, Box DX, Stow, MA 01775.
DJ3YV/EA8	14084	1213	CBA
YO4PX	14084	1226	CBA
GD3ESV	14083	1231	CBA
GJ4YAD	14087	1234	CBA
OY5NS	14096	1209	CBA
SW2ON	14088	1227	Box 10483, Thessaloniki, Greece.
HB0CZS	14089	1228	CBA
KF2L/HK	14085	1619	CBA
WP4AAR	21092	1801	CBA
KL7GQQ	14091	2227	CBA
TI2JIC	14086	1300	CBA
KC2OU/V2A	14090	1705	C/O VOA, Box 19, FPO Miami, FL 34054
AH6FS	21082	1904	CBA
FO8FO	21084	2028	CBA

ANTIGUA

Hans, ex-EL2AT, is sporting the call KC2OU/V2A. He is just getting started with a makeshift station and should be better equipped in the future. QSLs have not been printed as of this date, so do not expect a quick response.

AFRICA

Word has it, JA1ACB, "Mr. Tono", has sent a RTTY terminal to a German operator for use on an expedition in Africa. Plans of this operation will be revealed as soon as the licensing details are worked out. Promised is a rare one or two from the "DXCC" list!

All in all, the month of February was not a bad month at all. True, some bad propagation on some of the days, but the results are the proof of the pudding. I appreciate all the reports that came in by telephone, postcard, letter, and even the MSO mailbox. Those contributing are as follows: WB2CJL, W1DA, W2JGR, KT1N, WN4UBD, N1API, K4AGC, K6WZ, TG9VT and HC1BW. Thanks to each of you! I know that there are others of you that prowl the DX bands, let me hear from you too.

"COCOS ON AIR"

1800 UTC 12 February, KT1N reports, a station signing TI9WI appeared on 14084 KHz at this time. Working five stations and split frequency. The validity of this station is in doubt in as much as the operation was much publicized well in advance of the DXpedition and the station call to be used was TI9TTY.

2345 UTC 12 February-TI9TTY was just worked by AJOX at 2338 UTC on 14092 KHz, operator was Javier. TII9WI, heard earlier in the day and not confirmed as valid, is a good prospect for the "slim" category. [Congratulations on TI9TTY Joe, I know you got him for I was about three calls ahead of you. De Dee,N6ELP].

In the upcoming weeks, I wish each of you the very best in DX and until next time.73 and SK de Joe, AJ0X

* * *

Carl Steavenson reports receiving QSL cards from DH0TTY, T30AT, ZL8AFH for a total of 135 confirmed countries and understands that Gin, JA1ACB has 240 confirmed. Wonder when these guys get any sleep? In another month or so the RTTY JOURNAL will again start printing our HONOR ROLL so get your totals into the RTTY JOURNAL office soon.

INTERFACING THE ICOM 2AT, 3AT and 4AT TO Kantronics, "THE INTERFACE"

By Joseph T. Wood, AJ0X
POB 84
Laurel, Mississippi 39440

The interfacing of these popular Icom transceivers to the first generation Kantronics interface for VHF and UHF AFSK RTTY is easily accomplished. The transceivers have dual jacks located on the top of each unit for the addition of external microphone and speaker devices, while "The Interface" has an audio and 4 pin connector for connection of that unit to various external devices. The following procedure will lead you through the connection of these ports to establish a marriage of two versatile units. It is suggested that the procedure be read thoroughly and understood before attempting the interconnection.

RECEIVING

Connect the audio input of "The Interface" to one end of a shielded cable. The other end of the cable should have a miniature plug, compatible with the speaker jack of the handheld, attached to it. After connection, the tone level from the Icom can be adjusted with the set's volume control.

TRANSMITTING

Connect one lead of a 0.1mf 25vdc capacitor to pin 1 of the four pin connector on "The Interface". Connect the free lead of this capacitor to one lead of a 22k ½w resistor to form a junction. the free lead of the resistor is connected to pin 2 of the four pin connector. Prepare a single conductor shielded cable, of sufficient length, to connect the two units. At "The Interface" end connect the center conductor of the newly prepared cable to the junction point of the capacitor and resistor. Connect the shield to pins 3 and 4 of the four pin connector. At the Icom handheld end of the cable, using a 3.5mm plug, connect the center conductor to the tip connection and the shield to the sleeve connection. It is then ready for insertion into the MIC jack. This combination of components will allow passage from the interface to the handheld while simultaneously allowing transmit control of the handheld by the interface. If the tone level from "The Interface" is excessive it may be attenuated by inserting a series resistor between pin 1 and the 0.1mf capacitor. The value of this resistor will have to be determined by the user, experimentally, as each installation has been found to have minor variations!

Lots of luck and enjoy..de Joe,AJ0X

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S.A.R.T.G 1985 RTTY CONTEST

RESULTS

Class A-Single Operator

#	Call	QSOs	Points
1.	SM6ASD	239	262,105
2.	DJ6JC	217	220,320
3.	HB9HK	226	208,670
4.	I4JXE	203	192,800
5.	OZ1CRL	186	178,620
6.	SM5FUG	188	144,160
7.	F6BIG	144	100,340
8.	4X4KP	126	99,375
9.	**KT1N**	**141**	**91,140**
10.	OH2BON	141	79,300
11.	LU2HP/ON6JC	117	68,880
12.	VE6OX	108	66,035
13.	**W8MQK**	**124**	**65,145**
14.	**WA7EGA**	**102**	**47,580**
15.	XE1VV	126	44,480
16.	SM7LSU	77	41.520
17.	**W2KHQ**	**68**	**40,635**
18.	DF5BX	79	36,675
19.	HA5XA	81	35,690
20.	**W3KV**	**64**	**32,375**
21.	SP2UUU/1	76	30,155
22.	SM7LVX	73	29,445
23.	**KB2VO**	**81**	**28,800**
24.	SM5EIT	71	28,495
25.	PT2BW	57	27,555
26.	I7PXV	75	24,915
27.	EA1AVN	58	24,700
28.	IV3PVD	65	22,950
29.	SM5AAY	60	22,080
30.	**K6WZ**	**60**	**21,080**
31.	VE6ZX	62	19,575
32.	**W2JGP**	**50**	**19,375**
33.	GW3EHN	58	17,640
34.	VE200	48	17,280
35.	TI2SW	46	14,310
36.	W0LJS	54	13,720
37.	SM7BGE	43	12,515
38.	**WA6WGL**	**33**	**10,800**
39.	SM5IMJ	44	10,500
40.	**W3TZI**	**34**	**10,290**
41.	LU4US	31	8,800
42.	**W1BFA**	**29**	**8,200**
43.	PA3DBS	35	7,100
44.	LX2EL	31	7,030
45.	**N8BJQ**	**28**	**6,825**
46.	Y36YK/P	31	5,400
47.	F3IJ	25	5,015
48.	SP3LRS	32	5,040
49.	SM6AEN	27	4,845
50.	VK2BQS	24	4,480
51.	Y23VB	24	3,840
52.	DL5JQ	20	3,655
53.	**WB4UBD**	**18**	**3,450**
54.	YU2CB	15	2,475
55.	PY2CAR	15	1,750
56.	Y37UF	13	1,500
57.	DK5KJ	13	1,350
58.	SM4CJY	12	1,080
59.	DF8JN	12	875
60,	LU1MBB	8	665
61.	ZL2AKI	6	425

Class B Multi-Operator

1.	HA5KAG	177	139,725
2.	OK3RJB	135	90,240
3.	OK1OAZ	115	75,810
4.	OK3KJF	130	72,540
5.	Y44ZK	121	70,380
6.	OK3KGI	107	59,540
7.	SP2ZCD/1	7	280

Class C SWLs

1.	Y2-2814/M51	139	102,960
2.	FE 3700	136	101,085
3.	OK2-21478	241 (?)	100,085
4.	OZ-DR2135	131	80,085
5.	DE1GMH	114	75,900
6.	NL 4483	82	64,480
7.	OK2-30662	150	50,720
8.	G8CDW	81	38,280
9.	Y2-4802/N71	47	12,375
10.	Y2-7668/J33	40	11,520
11.	FE-1107	33	7,245

Checklogs: LU6FDK, ZL3AAX, VE7ATH, SM6LTO, K4AGC, SM6GOW, HB9APJ, N4JNP, WOBWJ. Many thanks for all of the fine logs and comments. This time there were no logs from Japan.

According to comments, bands conditions weren't good. Hope they improve.

MSO'S

by *Dick Uhrmacher,* K0VKH

installment # 14

Hi Gang! As I write this months column, (storing it on my trusty Hal Disk System), I'm watching some MSO activity on the "National Autostart Frequency", (14 085 625 Mark), and it brings to mind several subjects that I've been meaning to comment on in this column. One of my observations is the quite noticeable increase in MSO activity, to the point where this frequency seems to "GO" all day long. I can remember back seven years when "Red", K9KUW, and myself started our more or less routine operations there, and it was almost a "private channel". My how time flies when you're having FUN!

Probably the major advantage of MSO activity is the ability to "delay" your QSO/Traffic by storing it in the machine itself. You don't have to be "at the throttle", at a certain time, in order to either leave your traffic for a friend or acquaintance, or receive it from them. This storage and retrieval capability provides us with the ability to drop in on the MSO frequency almost completely at our leaisure, to store and retrieve this data. Yet, on a daily basis I see those who are either so impatient,or plainly so rude, that they purposely attempt to "steal" the MSO from someone who has already accessed it. [ED. note: then there are some who get so frustrated at attempting to get into a MSO that they leave and quit attempting to access any MSO]. With the exception of emergency traffic, which doesn't belong in a MSO in the first place, I can't think of any traffic that is so important that rude and impolite operating activities should prevail. The vast majority of MSO users are polite, proficient and courteous operators, and it's only a few bad apples that need shape up their operating techniques. With our limited frequency allocations, we need co-operation, courtesy and good operating techniques, so let's all try to co-operate to everyones advantage.

And, speaking of our limited RTTY frequencies, I think it's time to take whatever action is necessary to expand our RTTY operating area on 20 meters. This author feels that the so-called "Gentlemens Agreement" with reference to 20 meters is both outdated, and due to the large influx of Amateurs using digital communications, overly restrictive. This agreement was formed some years ago to preclude the "CW" and "RTTY" modes from interfering with each other. The area from 14.080 to 14.100 MHz was supposedly set aside for purely RTTY operations. From my view, this agreement has worked well over the years, but recently the vast growth in digital communications, without a corresponding growth in the area where RTTY communications takes place, has caused us to squeeze more and more activities into this 20 kiloHertz, with a corresponding increase in QRM, hard feelings, short tempers, etc.

During this same period, the phone portions of 20 meters have been expanded several times, downward in frequency, providing less and less spectrum for both CW and RTTY, (and DX phone where it is authorized). "BEACON" stations have established 14.100 MHz as their territory. Our Canadian friends to the North, as well as operators in other countries, have shared the area from 14.100 to 14.150 MHz pretty well unscathed. Anyone who takes the time to listen between those frequencies will find that this area is certainly underutilized, and although I'm more than positive that any suggestion on my part will be met with resistance from stations presently using that area, I feel that it is time to expand our RTTY and "Packet" activity above 14.100 MHz, but generally speaking it is seldom that anyone is utilizing that area.

There have been some suggestions that MSO type activities, DX activities, rag -chewing activities, etc., be "allocated" specific areas in which to work, (sub-bands if you will), thus supposedly eliminating conflicts in operating features, operating techniques, and system peculiarities. This author feels strongly that this is a very poor approach to spectrum management, unnecessarily restrictive, and representative of personal favoritism and bias towards one or more operating modes. Rather than saddle Amateurs with a blizzard of bureaucratic frequency restrictions, we should all concentrate on upgrading the operating proficiency of Amateur operators, the result being much less interference in normal day-to-day operations, a better understanding of new operating systems, and probably the most important benefit, allowing the continued interest and implementation of new and highly sophisticated digital communications techniques. If Amateur Radio doesn't continue to grow, by maintaining interest, providing challanges for our younger generations, then our present operations will be viewed by many as hum-drum and unsophisticated, without merit as compared to the spectrum we occupy, and our frequencies will become increasingly more subject to scrutiny by commercial interests who would dearly love to occupy them!

One of the things that I enjoy most about Amateur Radio is the wide range and scope of activities that one may become involved in. Whether it be rag-chewing, DX chasing, MSO operations, computer operations, AMTOR, packet radio etc., there's something there for everyone. And, I hasten to point out that each of us has our favorite mode that is most important to us as individuals. However, it is extremely important to also understand that the rag-chewer gets j-u-s-t- as much enjoyment and pleasure from his operations, as the packet

please turn to page 15

ENGINEERING MAKES THE DIFFERENCE

Production Expertise And Service Integrity Form The Foundation For Your Long-Term Satisfaction

The fact that the Computer Patch Interface unit by Advanced Electronic Applications, Inc. is known as the best value on the market is no accident. The CP-1 was designed by Al Chandler, K6RFK (PHD-E.E.), an active RTTY user since 1963.

Given a cost per unit budget for the CP-1, Al designed as much performance as possible into the Computer Patch, including a unique new tuning indicator, referred to by one of our customers as the "Dead Eye Dick" tuning indicator. This indicator is ideal for RTTY and CW, in that it is both fast to tune and (within 10 Hz) as accurate as scope tuning. It also performs under poor signal to noise conditions in which other indicators provide no useful data.

Al's variable shift tuning was designed to move the space filter center frequency from 2225 Hz to 3125 Hz without changing the bandwidth (by varying the Q of the filter). All this is accomplished using a precision ganged potentiometer to assure proper tracking of the multiple filter stages. We could have used a pot costing a tenth as much by simply using a two-pole filter design, but we feel the advantage of a sharper filter reduces the noise bandwidth significantly and allows the variable shift control to be used like passband tuning for extra elimination of adjacent channel interference.

Some manufacturers are concerned that amateurs might try calibrating their own equipment and, therefore, have used non-adjustable components, which results in sub-optimal performance. Although more costly, trimpots used in AEA equipment allow factory adjustment for performance to design specifications. Competently designed active filter circuits need not be adjusted after leaving the factory; however, for specialized use the owner can easily change filter parameters.

Mindful of the fact that many of our customers are new to RTTY, Al made the CP-1 tuning as forgiving as possible, while providing the most critical operator a piece of equipment in which he could be proud. Even old "pro's" are surprised at the poor signal conditions under which the CP-1 will still provide good copy.

You can now experience the BEST RTTY, CW, and AMTOR offered. Couple the CP-1 with our new AEASOFT™ software packages designed for the MARS, SWL, or amateur radio operator, and you will feel a pride reminiscent of what "made in U.S.A." brought in years gone by. Please do not hold the low price of the CP-1 against us. This is one case where you get much more than you pay for relative to any of the competitive units. For more information send for our FREE catalog. Better yet, see your favorite dealer.

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HITS & MISSES

GEORGE HANNON, WA6CQW
14215 Pecan Park Lane Space 73
El Cajon, CA 92021

VIC 20

Rod Chandler, W6VB is looking for information on the VIC-20 computer 24K byte RAM expansion memory manufactured by MSD Inc., Dallas, Texas. Rod can be contacted at 16299 Canelones Dr., Hacienda Heights, CA 91745

160 METER RTTY

On December 20,1984 the ARRL filed comments on PR Docket 84-959, the FCC proposal to allow F1, F3, F4, A4 and A5 on 160 meters. The FCC proposal came as a result of an ARRL petition requesting that the commission authorize F1 on 160 based on two premises (1) the present limitation to only A1 and A3 emissions is no longer necessary because that limitation was intended to protect CORAN-A operation in the band, which no longer exists, (2) the use of radioteleprinter techniques in Amateur Radio Communication has proliferated because of the availability of personal computers.

I think this is a great proposal, write to the FCC and also to the ARRL so the band plan can be put into effect.

TRS-80, APPLE II and VIC 20

The following programs are available from the ARRL PX library.

Number 64 is a basic RTTY reception program for the "Apple II" computer, written by Andre Bedard, VE2FNF. The program requires no external hardware and is capable of receiving 45.45 baud Baudot.

Number 65 is a machine language RTTY reception program for the "VIC 20" computer. Written by Richard Porter, NB5E, with the assistance of John Wilder, WA5PFJ. This program is able to receive 60, 75 and 199 word per minute Baudot.

Number 66 is a contest program for the TRS-80 color computer. Written by Tom, WA6ALA and Joe Firestine. This program is in Basic and requires 16K of Ram.

To obtain a complete listing of any PX program, send a business size SASE with 37 cents postage (check for new postage rates in effect) to: ARRL PX 225 Main Street, Newington, CT 06111.

VIC CLARK INCENTIVE PROGRAM

At the request of Vic Clarks family, the ARRL foundation has announced the creation of the Victor C. Clark incentive Program. The object is to provide support for the development of Amateur Radio among high school age youth.

Mini grants probably in ammounts not exceeding $500 will be made for such projects as securing equipment for antennas for club stations, purchasing training material, supporting local service projects, preferably by matching funds raised locally.

This is a great idea which should be supported by Ham Radio equipment manufacturers and Ham Radio Stores, etc. Just look at Apple computer as an example. I wonder how many Apple computers were sold to young people with the company donations, and better yet and more important, how many new hobbyists came into the fold. I believe that with a concerted effort by all, the hobby of Amateur Radio can bring in new hobbyists including high school youth, needed to keep our hobby from becoming "stale".

I will close my column for this month with a heartfelt thanks to all who wrote or called in regards to my accident. I sure started to mend faster when I heard from you. Many thanks.

So long for now..George, WA6CQW....

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AN AWARD FROM GDYNIA, POLAND

1. This award is available to any licensed Amateur or SWL who can prove contacts with stations from Gdynia City.
2. Contacts dating from February 10th 1976 may be used.
3. Points are as follows:
   a. European stations 6 points
   b. outside Europe 3 points.
4. Any band or mode may be used.
5. Cost 10 IRCs
6. Contacts with:
   SP2PGU/mm-s/y Dar Pomorza or s/y Dar Mlodziozy
   SP2ZFK/mm-s/y Zawisza Czarny
   SP2ZCD-Scout Club and special stations that have worked in Gdynia City for example:
     SP0ZCD-working Sea Days
     SP2ZCD/2-working in Young Peoples Palace
     SP2WCY-working in 1983 are double counted! The other stations are given 1 point.
7. Do not send QSL's
8. Applications may be sent to:
   "GDYNIA" Award manager SP2UU
   Andrzej Ulatowski
   POB 253, PL 81963 Gdynia 1, Poland
9. List of Gdynia City stations:
   a. Stations QRV after April 1983: SP2AOY, AX, DVH, FF, FUA, GAJ, GCE, GRC, HFL, IQT, JGK, JGZ, LLY, MHB, MHN, RQ, UU, UUU, WI, ZT, ZCD, ZFK, and PGU.
   b. Stations QRV until December 1981: SP2AVE, AWB, BF, BLW, BAO, DFK, EFG, FLU, FNR, FOG, FPM, FVK, GDV, GNB, GOF, GSF, HEA, HTI, HJN, ISU, IST,IQW JHA, JHJ, HKL, LOA, WA, WB, KDS, KFF, KIS, KPV, ZCE. Plus 9A Stations.

THE STANDARD OF EXCELLENCE

The world of CW, RTTY, and new DUAL AMTOR is as close as your fingertips with the new brilliantly innovative state-of-the-art microcomputer controlled* EXL-5000E.

Automatic Sender/Receiver: Due to the most up to date computer technology, just a console and keyboard can accomplish complete automatic send/receive of Morse Code (CW), Baudot Code (RTTY), ASCII Code (RTTY) and new ARQ/FEC (AMTOR)

Code: Morse (CW includes Kana), Baudot (RTTY), ASCII (RTTY), JIS (RTTY), ARQ/FEC (AMTOR)

Characters: Alphabet, Figures, Symbols, Special Characters, Kana

Built-in Monitor: 5" high resolution, delayed persistence green monitor — provides sharp clear image with no jiggle or jitter even under fluorescent lighting. Also has a provision for composite video signal output

Time Clock: Displays Month, Date, Hour and Minute on the screen

Time/Transmission/Receiving Feature: The built in timer enables completely automatic TX/RX without operator's attendance

Selcal (Selective Calling) System: With this feature, the unit only receives messages following a preset code. Built in Demodulator for High Performance. Newly designed high speed RTTY demodulator has receiving capability of as fast as 300 Baud. Three-step shifts select either 170Hz, 425Hz or 850Hz shift with manual fine tune control of space channel for odd shifts. HIGH (Mark Frequency 2125Hz)/LOW (Mark Frequency 1275Hz) tone pair select. Mark only or Space only copy capability for selective fading. ARQ/FEC features incorporated

Crystal Controlled AFSK Modulator: A transceiver without FSK function can transmit in RTTY mode by utilizing the high stability crystal-controlled modulator controlled by the computer

Photocoupler CW, FSK Keyer built-in: Very high voltage, high current photocoupler keyer is provided for CW, FSK keying

Convenient ASCII Key Arrangement: The keyboard layout is ASCII arrangement with function keys. Automatic insertion of LTR FIG code makes operation a breeze

Battery Back-up Memory: Data in the battery back-up memory covering 72 characters x 7 channels and 24 characters x 8 channels, is retained even when the external power source is removed. Messages can be recalled from a keyboard instruction and some particular channels can be read out continuously. You can write messages into any channel while receiving

Large Capacity Display Memory: Covers up to 1,280 characters. Screen Format contains 40 characters x 16 lines x 2 pages

Screen Display Type-Ahead Buffer Memory: A 160-character buffer memory is displayed on the lower part of the screen. The characters move to the left erasing one by one as soon as they are transmitted. Messages can be written during the receiving state for transmission with battery back-up memory or SEND function

Function Display System: Each function (mode, channel number, speed, etc.) is displayed on the screen

Printer Interface: Centronics Para Compatible interface enables easy connection of a low-cost dot printer for hard copy

Wide Range of Transmitting and Receiving: Morse Code transmitting speed can be set from the keyboard at any rate between 5-100 WPM (every word per minute) AUTOTRACK on receive. For communication in Baudot and ASCII Codes, rate is variable by a keyboard instruction between 12-300 Baud when using RTTY Modem and between 12-600 Baud when using TTL level. The variable speed feature makes the unit ideal for amateur, business and commercial use

Pre-load Function: The buffer memory can store the messages written from the keyboard instead of sending them immediately. The stored messages can be sent with a keyboard command

"RUB-OUT" Function: You can correct mistakes while writing messages in the buffer memory. Misspellings can also be erased while the information is still in the buffer memory

Automatic CR/LF: While transmitting, CR/LF automatically sent every 64, 72 or 80 characters

WORD MODE operation: Characters can be transmitted by word groupings, not every character, from the buffer memory with keyboard instruction

LINE MODE operation: Characters can be transmitted by line groupings from the buffer memory

WORD-WRAP-AROUND operation: In receive mode, WORD-WRAP-AROUND prevents the last word of the line from splitting in two and makes the screen easily read

"ECHO" Function: With a keyboard instruction, received data can be read and sent out at the same time. This function enables a cassette tape recorder to be used as a back-up memory, and a system can be created just like telex which uses paper tape

Cursor Control Function: Full cursor control (up/down, left/right) is available from the keyboard. Test Message Function. "RY" and "QBF" test messages can be repeated with this function

MARK-AND-BREAK (SPACE-AND-BREAK) System: Either mark or space tone can be used to copy RTTY

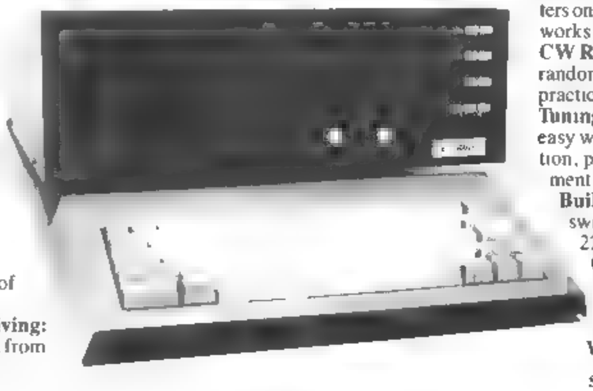
Variable CW weights: For CW transmission, weights (ratio of dot to dash) can be changed within the limits of 1 3 1 7

Audio Monitor Circuit: A built-in audio monitor circuit with an automatic transmit receive switch enables checking of the transmitting and receiving state. In receive mode, it is possible to check the output of the mark filter, the space filter and AGC amplifier prior to the filters

CW Practice Function: The unit reads data from the hand key and displays the characters on the screen. CW keying output circuit works according to the key operation

CW Random Generator: Output of CW random signal can be used as CW reading practice. **Bargraph LED Meter for Tuning.** Tuning of CW and RTTY is very easy with the bargraph LED meter. In addition, provision has been made for attachment of an oscilloscope to aid tuning

Built-in AC/DC: Power supply is switchable as required, 100-120 VAC, 220-240 VAC/50/60Hz + 13.8VDC. **Color:** Light grey with dark grey trim — matches most current transceivers. **Dimensions:** 363(W) x 121(H) x 351(D) mm Terminal Unit. **Warranty.** One Year Limited



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**Dual Amtor. Commercial quality,* the EXL 5000E incorporates *two completely separate modems* to fully support the amateur Amtor codes and *all* of the CCIR recommendations 476-2 for commercial requirements

DAFG Deutsche Amateur Fernschreib Gruppe e.V.

GARTG German Amateur Radio Teleprinter Group

14th GARTG-RTTY-Contest 1985

General: The German Amateur Radio Teleprinter Group (GARTG) e V sponsors their 14th GARTG-Short-Contest and welcomes participants of all RTTY Amateurs in and outside the Federal Republic of Germany

There will be a shortware and VHF-Contest Both contests will be scored separately The contest is split in 5 single contests within a year After the 5th single contest the winner of the year in each classification will be stated

Shortware:

1st part:	Saturday	Febr	16th	1985	1300-1700 UTC
2nd part	Sunday	April	14th	1985	0700-1100 UTC
3rd part	Saturday	June	8th	1985	1200-1600 UTC
4th part	Sunday	Aug.	25th	1985	0700-1100 UTC
5th part	Saturday	Oct	12th	1985	1300-1700 UTC

VHF

1st part.	Sunday	Febr	17th	1985	0800 1200 UTC
2nd part	Saturday	April	13th	1985	1200-1600 UTC
3rd part:	Sunday	June	9th	1985	0700-1100 UTC
4th part	Saturday	Aug	24th	1985	1200-1600 UTC
5th part:	Sunday	Oct.	13th	1985	0800-1200 UTC

Bands: 80 and 40 m VHF. 2 m 70 cm and 23 cm

Contest call: CQ GARTG contest After each QSO the station having called last keeps the QRG The previous holder should make QSY

Exchange: Shortware RST, QSO-number, name, QTH
VHF Same as shortware in addition QTH locator

Scoring: Each station may be worked one per band. Each complete QSO counts 1 point on 80 and 40 m VHF Each complete QSO on 2 m 1 point, 70 cm 2 points, and 23 cm 3 points per kilometre worked Contacts via repeaters are not valid!
Final score: Total of QSO points

Classifications

Class A: Shortware stations with more than 200 W input
Class B Shortware stations with up to 200 W input
Class C: SWL stations
Class D: VHF stations

Logs: To contain
a) Call, name and complete address, b) Classification, c) Time in UTC, Call, name, QTH station worked, transmitted and received message numbers, band used, d) Final score (logs without final score will count as checklogs)
VHF a) to d) same as shortware, e) QTH locator sent and received. SWL: For points and scoring confirm above The same stations may be reported only two times Instead of message received, the SWL should report Call of partnerstation (worked)

Results: The result will be published in the GARTG newsbulletin RTTY NEWS and in our club magazine „RTTY" which can be bought even outside DL for 50 DM Please contact GARTG Contest Manager

Logs to be received not later than 20 days after closing each single contest

Contest-Manager: Wolfgang Puenjer, DL8VX, P.O. Box 90 11 30, D 2100 Hamburg 90, Republique Federale d'Allemagne

---

6th world wide GARTG-SSTV-Contest 1985

To promote SSTV mode the German Amateur Radio Teleprinter Group sponsors on the occasion of their 15th anniversary their 6th world wide Slow Scan Television Contest

When:
1st part. Saturday/Sunday 6th/7th April 1985 1200 UTC
2nd part Saturday/Sunday 5th/6th Oct 1985 1200 UTC
A 6 hour non operating time must be taken at any time during the contest

Bands 3,5 – 7,0 - 14,0 – 21,0 and 28 MHz amateur bands

Messages: a) Callsign b) RST c) Message number (three figure group starting with 001) d) GARTG-members have to transmit their membership number (a five figure group) which will give 50 bonus-points for each contact with GARTG-members.
Contest exchange must be made exclusively in the SSTV mode. For USA and some other countries the FCC rules are accepted

Scoring:

All two-way SSTV contacts	80 20 m	1 point
All two-way SSTV contacts	15 m	2 points
All two-way SSTV contacts	10 m	5 points

Multipliers. Each country of WAE and ARRL-list including KL 7, KH 6, W/K, JA, PY, VE/VO and VK-districts will be considered as separate countries The same continents and countries are only valid once on each band The same station can only be worked on each band

Final scoring: QSO-points X countries worked X continents + total number of bonus points

Groups: a) SSSTV transmitting and receiving stations
b) SST receiving stations (SWL) - rules as listed above
There will be separate categories for operators and SWL

Logs: Logs to contain Date, time (UTC), call sign of station worked, RST and message number sent, time, RST and number received and points claimed Don't forget to list the GARTG membership numbers as bonus points!

Note: Logs from SWL must contain both the full report sent and received by the station logged Incomplete logging are not eligible for scoring. The summary sheet should show the full scoring Please use separate sheet for each band

Deadline: All logs must be received two months after each part

Contest-Manager: Wolfgang Puenjer, DL8VX, P O. Box 90 11 30, D-2100 Hamburg 90, Federal Republic of Germany

Prizes: A free 12 month subscription of „RTTY" — official organ of GARTG — will be sent to the 3 top scorers of group A + B

Awards Certificates will be awarded to the top scorers in each section

DEUTSCHER AMATEUR RADIO CLUB e.V.
Mitglied der IARU
REFERAT BILD- UND SCHRIFTÜBERTRAGUNG

DARC "CORONA" 10m RTTY CONTEST 1985

The "DARC, Referat Bild- und Schriftuebertragung" has the great pleasure to invite Radio Amateurs worldwide, to participate in the annual 10 meter RTTY Contest. It is held to increase the RTTY activity on the 10 m Amateurband. There are four tests within a year, each test will be scored separate.

* **Schedule:** 1st Test: Saturday, March, 2nd, 1100-1700 UTC
2nd Test: Sunday, May, 5th, 1100-1700 UTC
3rd Test: Saturday, September, 7th, 1100-1700 UTC
4th Test: Sunday, November, 3rd, 1100-1700 UTC.

* **Band:** The recommended range of 10 meter Amateurband.

* **Classes:** A = Single OP; B = Multi OP, single TX; C = SWL printer.

* **Contest Call:** "CQ CORONA TEST".

* **Exchange:** RST, QSO-Nr., Name, US-Stations will give add. their state.

* **Points:** Each complete RTTY-QSO count for 1 point. Each station has to be contacted only once.

* **Multipliers:** Use the latest WAE- and DXCC-list, count each VE/VO/VK call-area and each different US-state as a separate country.

* **Scoring:** Total QSO-points times total multipliers.

* **Logs:** It is recommended to use the official log forms, which are obtainable from the manager (a SASE will be appreciated).
Logs should contain: Name, Call and full address of participant / Class / Time in UTC / Exchange and final score. SWLs apply according to the rules.

* **Deadline:** Each entry which arrive to the manager within 30 days after the respective test will be valuable.

* **Manager:** Klaus K. Zielski, DF7FB, P.O.Box 11 47
D-6455 Erlensee, Fed. Rep. of Germany.

* **Awards:** Appropriate awards to the leading stations per each class.
A station which wins first or second places at least three times during a given year, is eligible to be honoured with the "CORONA CUP".

WAE - countries List

CT1 - CT2 - C3 - DL - EA - EA6 - EI - F - G - GD - GI - GJ - GM - GM Shetland - GU - GW - HA - HB - HB0 - HV - I - IS - IT - JW Bear - JW Spitzbergen - JX - LA - LX - LZ - OE - OH - OH0 - OJ0 - OK - ON - OY - OZ - PA - SM - SP - SV - SV Athos - SV 5 - SV 9 - TA1 - TF - TK - T7 - UA europ. - UA1 Franz-Josef-Land - UA1N - UA2 - UB - UC - UO - UP - UQ - UR - YO - YU - Y2 - ZA - ZB2 - 1A0 - 3A - 4U1ITU - 4U1VIC - 9H.

CLASSIFIED ADS

30 words $3.00, additional words 5 cents each - Cash with copy. Deadline 1st of month for following month.

FOR SALE: CV-1758 URR converter side band. Connects to any good AM receiver & permits side band operation $90. RTTY paper, 4 boxes, 32 rolls total 7/8 x 8" black 7.00 weight total 48lbs UPS OK. Bill Harmon, 5628 10th Ave.So., Birmingham, AL 35222.

DT-600 BOARD partially equipped with manual, M-15 paper winder, M-33 paper winder, Western Electric mercury polar relays, Teletypewriter TT-299B/06 Teleprinter AN/UGC40, 103 type data set, Make Offer! Send SASE for test equipment, CRT's, meters, microphones and other related items. Galbraith, 1214 S. Alvord, Evansville, IN 47714.

WANTED-TELETYPE Repair parts, unused. Any quantity, Send SASE for parts, supplies, manuals. TYPETRONICS, Box 8873, Ft. Lauderdale, FL 33310. Phone 305-583-1340 after 9PM. Fred Schmidt, N4TT.

FDM RTTY DEMODULATORS. Frederick 1202R series. Useful for AP/UPI news on HF radio, Commodities news service on FM SCA broadcasts and UPI "one state per channel" satellite FM/SCPC transmissions. Four models available in various conditions, $35 to $350. Call/write for full brochure.Electrovalue Industrial Inc, POB 376-RJ, Morris Plains, NJ 07950. 201/267-1117

NEWS-NEWS-NEWS-Amateur Radio's Newspaper "WORLDRADIO".1 year subscription is $9.00. Send to: WORLDRADIO, 2120 28th St., Sacramento, CA 95818.

HAM RADIO MAGAZINE. The no nonsense state-of-the-art technical magazine. Subscribe now and see for yourself. 1 year $19.50 in USA. Canada and foreign surface $21.50. Europe, Africa & Japan area $28.00 airmail. Ham Publishing Group. Greenville, NH 03048.

HAL COMMUNICATIONS STRIKES AGAIN! If you have an IMB-PC Personal Computer, then you want to utilize the new HAL PCI-2000 interface and software to turn it into the ultimate in a computer based RTTY system! Morse, Baudot and ASCII, 103/202 modems, all speeds/shifts, split screen and a host of other features. Write or call Dick, KØVKH, DIALTA Amateur Radio Supply, 212-48th St., Rapid City, SD 57702. Call 602-343-6127. Our prices can't be beat!

FOR SALE:Leeds and Northrup Model G Speedmax, opeates on 1.5 dry cell. Manual available. Each $50. Model 28 console $49.50. Bill Harmon, 5628 10th Ave., So., Birmingham, AL 35222. Call 205/592-0835.

FOR SALE: INFO-TECH 200E, RTTY, CW and ASCII modes. $300. N6YS, Doug. Great shape. Call 619/455-6655.

WANTED: UT-4 Boards by W7WTQ in good working order will all parts mounted. WB5HVE, Herb Draeger Box 514, Mountain Home, AK 72653-0514.

FOR SALE: DRAKE THETA 1000 RTTY/CW Demod/keyboard, cost $1100 sell $400. Robot 800C RTTY/CW/SSTV keyboard $400 Robot 400 SSTV $275, Kenwood TS-130, 200W SSB rig $395. Jack Richards,1193 Immaculate Lane, Cincinnati, OH 45230 513/232-3765.

NEW PRODUCT

ICOM announces the IC-3200A 25 watt compact full featured Dual Bander. With only 14 front panel controls, the IC-3200A is simple to use, yet offers these outstanding standard features:

Frequency coverage: 2 meter (140.000 to 150.000MHz) plus 70 CM (440.00 to 450.00MHz)

5KHz fully programmable offsets for MARS and CAP repeater operation

Size is 5½"W x 2"H x 8½"D

25 watts output on both bands

Memory lockout on both bands

Scanning..memory, band, programmable and priority

Ten tunable memories with lithium battery to maintain memories when disconnected from power source

New LCD display-easy to read in sun

Tone encoder (PL and subaudible tones built-in)

One antenna connector-duplexer is already installed

Variable tuning increments

The ic-3200A also comes standard with an IC-HM14 touchtone mike with up/down scan, DC power cord, and mobile mounting bracket. Pricing is set at $549 suggested retail and will be available in April for Dayton.

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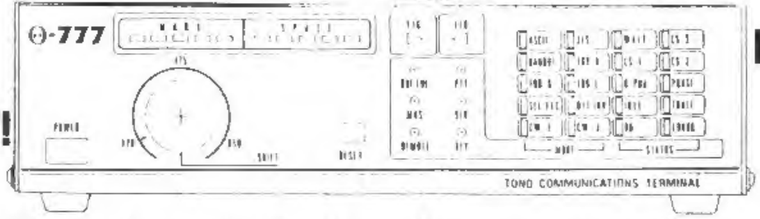

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MSO COLUMN CONTINUED

Radio enthusiast gets from his pursuits; and that the MSO SYSOP gets his thrill by providing the MSO service, just as much as the DX'er gets from nabbing an elusive new country. To co-exist requires only the very basic understanding of co-operation, coupled with an increased awareness of operator knowledge and proficiency. In the end we need more spectrum, less intra-band squabbling, and more co-operation from all interests. I think it's time to start using a portion of the spectrum above 14.100 MHz to allow for the increased digital communications activities, and I'd like to see some permanent MSO activity in this area. What do you think?

MSO OF THE MONTH:

I'd like to take this opportunity to welcome a new MSO on the "National Autostart Frequency", operated by Bill Wright, W4NVC. Bill is located in Boca Raton, Florida, and runs the HAL DS3100 Disk System, coupled to an ICOM IC-745 transciever. Bill is presently limited to a "wire beam" antenna in the attic of his building, but he puts out a nice signal. Welcome aboard Bill, and thanks for providing the nice service!

MSO HINT OF THE MONTH:

One of our goals in operating MSO's should be to minimize the time the MSO is on the air to the greatest extent possible. Long "Directory" runs probably eat up more time than anything. Each remote user who places a message in an MSO should be responsible for deleting that file as well, when it is not picked up by the addressee within a reasonable time period. I suggest that any file that has not been picked up within 14 days has "whiskers", and the remote user should take the appropriate action to delete it. Additionally, should the remote user not take this action in a timely manner, the MSO SYSOP should not hesitate to remove these aging files.

"Spring" is upon us, and hopefully better band conditions. Let's hear from you, especially on subjects relative to spectrum use, ways to improve MSO service, and anything else that you would like to share with other RTTY/MSO operators. Good luck, and I'll see you next month!

DE: Dick, K0VKH

THOUGHTS ON THE TS-930S

By:Gary Moles, ZL2AKI
5 Edward Street
Bulls, New Zealand

"There has been a lot written about owners being unable to use "monitor" with a TS-930S in the FSK mode, which has apparently prevented a lot of TS-930S owners from using their rigs in this mode as opposed to generating tones and using the LSB mode.

If you know a TS-930S owner who is reasonably technically minded and who uses RTTY, get them to try this mod which I have applied to mine and it appears to be okay.

1. Remove top and bottom covers. Place rig upside-down on bench - front panel forward.
2. Identify 'switch unit A' board - this is on the left hand side-front.
3. From the service manual, identify the PCB contacts of SIO-1. They are actually the front, left hand row of contacts, slightly left of center.
4. Connect a silicon signal diode between the 'FSK' and 'SSB' (J6) contacts on the PCB - anode to FSK. These are easily identified from the PCB layout. And that is it!. I leave my processor turned 'off' and use the 'processor out' control for power out control, normally about 50 watts, with monitor 'on' tones are audible.

I am about to similarly modify a TS-820S for a local owner, with a diode connected in similar manner in the rig, easily identified in the cct diagram."

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RTTY BEGINNERS HANDBOOK

Still Available at $8.00 PPD USA. The book for RTTYers wanting to know all of the what and whys of RTTY. Send to the RTTY JOURNAL, POB RY, Cardiff, CA 92007-0179....

EDITORS LOG CONTINUED

by putting a switch at the transceiver that disconnects the CP-1 connections when not using RTTY.

Bobs Hamtext software does not accommodate the Apple Imagewriter so I cannot print as I receive RTTY. And this is one problem that he has not been able to solve. He says it is not a big problem as you can always print what is in the holding buffer whenever you want, but it is annoying. Any solutions out there?

I still have not received any other solutions to RTTY/computer problems nor and requests for help. Can it be that everyone has been able to purchase all RTTY/computer gear and interface them all by just plugging them in?

"By the way, did you know that you can't send mail to Washington?""Why not?" "Because he's dead, but you can send mail to Lincoln." "But he's dead too!" "I know it - but he left his Gettysburg Address."

From Juan, LU4EGE comes the following list of countries and how many stations they have on AMTOR:

Mexico	3
Costa Rica	8
Venezuela	3
El Salvador	3
Columbia	2
Guatamala	1
Monserrat	1
Neth. Antilles	1
Panama	1
Peru	1
Brazil	1
Chile	4
Argentina	5

Juan translates the RTTY JOURNAL into Spanish and distributes it from Buenos Aires. Juan states that activity has been picking up lately, from the States mainly, but also Europe, Canada, Japan and Africa. Juan invites you all to drop into his AMTOR maildrop on 14.070.1 KHz (mark) and leave him a message. His selcal is LEGE. QSL info for Juan is: POB 64, 1706 Haedo, Buenos Aires, Argentina.

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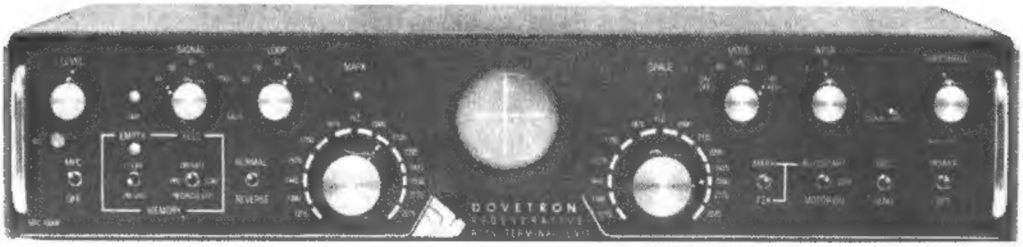

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